# PATENT COOPERATION TREATY

# **PCT**

# TRANSLATION INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

200411F-0425			FOR FURTHER AC	CTION	See Form PCT/IF	PEA/416			
International application No.  PCT/JP2004/017106			International filing date	, ,	,	Priority date (day/month/year) 17.11.2003			
·			17.11.2004		17.11.2	003			
	International Patent Classification (IPC) or national classification and IPC								
C01	.B39	/46, B01	J29/70,	C07D201/0	4, 223/	10			
Applica	unt								
1		AL INSTI	TUTE OF	ADVANCED	INDUSTR	IAL SCIENCE A	AND TECHNOLOGY		
1.				ninary examination repo e applicant according to		by this International Prelin	ninary Examining Authority		
2.	This R	REPORT consists	of a total of	7	sheets, i	including this cover sheet.			
3.	This re	eport is also accor	mpanied by Al	NNEXES, comprising:					
	a. 🕨	(sent to the	applicant and	to the International Bur	reau) a total of	9	sheets, as follows:		
		sheets sheets	of the descrip	tion, claims and/or draw	vings which hav	e been amended and are the	e basis for this report and/or on 607 of the Administrative		
				ede earlier sheets, but w	hich this Autho	rity considers contain an a	mendment that goes beyond		
		the dis	sclosure in the	international application	on as filed, as in	ndicated in item 4 of Box	No. I and the Supplemental		
	ь. 🗌	sent to the	International I	Bureau only) a total of (i	indicate type and	d number of electronic carri	er(s))		
						containing a se	quence listing and/or tables		
				•	indicated in the		ng to Sequence Listing (see		
4.	This			rative Instructions).					
4.				ng to the following item	5.				
		Box No. I	Basis of the	report					
	H	Box No. II	Priority						
		Box No. III	Non-establis	shment of opinion with i	regard to novelty	y, inventive step and industr	rial applicability		
	$\boxtimes$	Box No. IV	Lack of unit	y of invention					
		Box No. V		atement under Article 3: Lexplanations supportin		to novelty, inventive step of	or industrial applicability;		
	$\boxtimes$	Box No. VI	Certain docu	uments cited					
	Ш	Box No. VII	Certain defe	cts in the international a	application				
	<u> </u>	Box No. VIII	Certain obse	ervations on the internati	ional application	1			
Date of	submiss	sion of the demand	d	1	Date of completi	on of this report			
Name a	Name and mailing address of the IPEA/JP				Authorized officer				
<u> </u>	1 37				D 1 1 27				
Facsimi	Facsimile No.				Telephone No.				

International application No.

PCT/JP2004/017106

Вох	No. I	Basis of the report		
1.		n regard to the language, this report is based on the internaticated under this item.	onal application in the language in	which it was filed, unless otherwise
		This report is based on translations from the original langua which is the language of a translation furnished for the pur		,
		international search (Rule 12.3 and 23.1(b))		
		publication of the international application (Rule 12.	4)	
		international preliminary examination (Rule 55.2 and	d/or 55.3)	
2.	recei	n regard to the <b>elements</b> of the international application, thi iving Office in response to an invitation under Article 14 a report):		
		the international application as originally filed/furnished		
	$\boxtimes$	the description:		
		pages1-7,10,13-53		as originally filed/furnished
		pages*8,9,11,11/1,12	_ received by this Authority on	20.09.2005
		pages*	_ received by this Authority on	
	$\boxtimes$	the claims:		
		nos. 1-5,7,8,12-14,16-20,22-43		as originally filed/furnished
		nos.*	as amended (togethe	er with any statement) under Article 19
		nos.* 6,9-11,15,21	received by this Authority on	20.09.2005
		nos.*		
	$\boxtimes$	the drawings:		
		sheets fig. 1-18		as originally filed/furnished
		sheets*		
		sheets*		
	П	a sequence listing and/or any related table(s) – see Supplei	_	
3.	$\Box$		montal Box Relating to sequence 2	noung.
3.		The amendments have resulted in the cancellation of:		
		the description, pages		
		the claims, nos.		
		the drawings, sheets/figs		
4		any table(s) related to sequence listing (specify):		1:4-4
4.	Ш	This report has been established as if (some of) the amenthey have been considered to go beyond the disclosure as the source of		
		the description, pages		
		the claims, nos.		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
*	If ite	rm 4 applies, some or all of those sheets may be marked "su	perseded."	

PCT/JP2004/017106

Вох	No. I	Lack of unity of invention
1.	$\boxtimes$	In response to the invitation to restrict or pay additional fees the applicant has:
		restricted the claims.
		paid additional fees.
		paid additional fees under protest.
		neither restricted the claims nor paid additional fees.
2.		This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3.	This	Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
		complied with.
	$\bowtie$	not complied with for the following reasons:
		Claims 1 to 8, 10, 11, 15 to 21, 24, 25, 27 to
		33 and 39 pertain to crystalline layered compounds
		that have the specific base structure and the specific
		x-ray powder diffraction pattern that are set forth in
		claim 1; to zeolites that are produced from said
		crystalline layered compounds; or to a method for the
		production of $\epsilon$ -caprolactams which employs said
		zeolites. Meanwhile, claims 9, 12 to 14, 22, 23, 26,
		34 to 38 and 40 to 43 pertain to zeolites that have
		the chemical composition and the abstract geometric
		crystal structure that are set forth in claim 9 and
		claim 23, or to a method for the production of $\epsilon-$
		caprolactams which employs said zeolites.
		Such being the case, the inventions in question
		cannot be considered to be a single invention or a
		group of inventions that are so linked as to form a
		single general inventive concept.
		[Refer to the Supplemental Box]
4.	Cons	equently, this report has been established in respect of the following parts of the international application:
		all parts.
	$\boxtimes$	the parts relating to claims Nos1-8,10,11,15-21,24,25,27-33,39

International application No.
PCT/JP2004/017106

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement											
1. Stat	tement										
	Novelty (N)	Claims	1-8,	10,	11,	15-21,	24,	25,	27-33,	39	YES
		Claims									NO
	Inventive step (IS)	Claims	1-8,	10,	11,	15-21,	24,	25,	27-33,	39	YES
		Claims									. NO
	Industrial applicability (IA)	Claims	1-8,	10,	11,	15-21,	24,	25,	27-33,	39	YES
		Claims									NO

- 2. Citations and explanations (Rule 70.7)
  - Document 1: JP 7-291620 A (Mizusawa Industrial Chemicals, Ltd.), 07 November 1995
  - Document 2: JP 2003-73115 A (National Institute of Advanced Industrial Science and Technology (AIST)), 12 March 2003

The inventions set forth in claims 1 to 8, 10, 11, 15 to 21, 24, 25, 27 to 33 and 39 are novel and involve an inventive step in relation to documents 1 and 2 cited in the international search report.

Documents 1 and 2 do not disclose the crystalline layered compounds that are set forth in claim 1 or the zeolites that are set forth in claim 10; furthermore, it would not have been easy to conceive of the compounds and the zeolites in question, even for a person skilled in the art.

International application No.
PCT/JP2004/017106

ox No. VI Certain documents cited			
. Certain published documents (Rule 70.10)			
Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim (day/month/year)
JP 2004-175661 A [EX]	24.06.2004	14.11.2003	14.11.2002
JP 2004-33944 A [EX]	02.12.2004	18.11.2003	25.04.2003
Non-written disclosures (Rule 70.9)			
Kind of non-written disclosure	Date of non-written d (day/month/yea	isclosure referring	e of written disclosure g to non-written disclosure (day/month/year)

International application No.
PCT/JP2004/017106

### Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The inclusion of the term "and" in the disclosure of claim 24 suggests that the zeolites set forth therein have four types of crystal structure. However, it is impossible for a single zeolite to simultaneously have four types of crystal structure, and thus the content of the disclosure in question is unclear. Such being the case, claim 24 cannot be said to be set forth in a sufficiently clear manner.

International application No.

PCT/JP2004/017106

#### Supplemental Box

In case the space in any of the preceding boxes is not sufficient. Continuation of:

Box IV.3

(That is to say, the disclosures pertaining to the latter inventions do not mention the technical characteristics that should result from using the specific crystalline layered compounds that are set forth in claim 1 (i.e., specific microstructures such as the X-ray powder diffraction pattern), and thus claims 1 to 43 cannot be said to share a common technical feature.)